

Docket No.: 043890-0932

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:	Customer Number: 53080
	:	
Yoshiyuki MURAOKA, et al.	:	Confirmation Number: 5740
	:	
Application No.: 10/586,602	:	Group Art Unit: 1795
	:	
Filed: July 20, 2006	:	Examiner: Adam A. ARCIERO
	:	
For: NONAQUEOUS ELECTROLYTE SECONDARY BATTERY	:	

**REPLY BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Reply Brief is submitted in response to the Examiner's Answer dated June 24, 2010  
responding to the Appellant's Appeal Brief filed March 29, 2010.

### Argument

Appellant respectfully submits that the Examiner's factual finding about the unexpected results shown in Table 1 is erroneous. In the Response to Argument section of the Examiner's Answer, the Examiner asserted that Examples 3, 5-6 and 8, which are directed to claim 3, show the 100W discharge capacity of 95%, while Examples 1-2, 7, 9-13 and Comparison Examples 1 and 3 show the same value of the 100W discharge capacity. Then, the Examiner concluded that the claimed range of the Li amount is not critical. Further, the Examiner asserted that all of the variables should be considered.

Appellant respectfully submits that although other variables may affect the results, the criticality of the subject variable can be shown by changing only the subject variable under the claimed condition in the experiments. In the present claim 3, even if, *arguendo*, other variables affected the properties of the battery, the amount of Li by itself shows the unexpected results. For example, among Examples 3-6 and Comparison Example 1, only the amounts of Li were changed while the other variables (e.g., amount of composite B) were kept constant. Within these samples, while Examples 3, 5 and 6, in which the Li amount fall in  $0.9 \leq x \leq 0.98$ , exhibit higher discharge capacity of 95%, Example 4, in which the Li amount  $x=0.85$ , shows a lower discharge capacity of only 75%. Further, while Examples 3, 5, and 6 exhibit higher capacity retention ratio of 70%, Comparison Example 3, in which the Li amount  $x=1$ , shows only 10% of capacity retention ratio. These results clearly show that varying the amount of Li without changing the other claimed conditions dominantly affects the properties of the battery, and when the amount of Li is out of the claimed range, the properties of the battery drastically degrade.

In this regard, Appellant submits that the current laws, rules or cases do not require that both ends of the claimed range exhibit criticality with respect to the same property or characteristic.

Appellant submits that the entire range of the claimed Li amount is critical with respect to the capacity retention ratio at upper end of the range and the discharge capacity at lower end of the range.

In addition, or in the alternative, Appellant submits that the claimed amount of Li is critical under the condition that the positive electrode active material also includes the claimed range of the second active material ("B"). The Examiner asserts that Comparison Example 1 also shows the same value of the 100W discharge capacity (i.e., 95%). However, since Comparison Example 1 does not include the compound B (e.g.,  $\text{LiMnO}_2$ ), considering Comparison Example 1 when determining the criticality of the Li amount is inappropriate. In fact, Comparison Example 1 shows the very low capacity retention ratio (10%). Thus, the Examiner's assertion with respect to Comparison Example 1 is erroneous and has no merit.

Based on the foregoing, Appellant submits that the Examiner's finding about the criticality of the claimed Li amount was made in error. Since as set forth above, the claimed range of Li amount is critical and exhibits the unexpected results, it is clear that claim 3 and dependent claim 4 would not have been obvious over the combination of Oishi, Yamashita and Hosoya. Accordingly, Appellant requests that the rejection of claims 3 and 4 be withdrawn.

**Conclusion**

For all of the foregoing reason, Appellant respectfully submits that the ground of rejection of the claims on appeal is in error and should be reversed.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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